IN THE UNITED STATES DISTRICT COURT
FOR THE MIDDLE DISTRICT OF NORTH CAROLINA
No. 1:17-CV-1097

APPALACHIAN VOICES, NORTH CAROLINA STATE CONFERENCE OF THE NAACP, AND STOKES COUNTY BRANCH OF THE NAACP, Plaintiffs, v. DUKE ENERGY CAROLINAS, LLC Defendant.	)	**COMPLAINT**

NATURE OF THE CASE

1. Appalachian Voices, the North Carolina State Conference of the NAACP, and the Stokes County Branch of the NAACP ("Citizen Groups") bring this citizen enforcement action to challenge ongoing, unlawful leaks of toxic metals and other pollutants by Defendant Duke Energy Carolinas, LLC, ("Duke Energy") at its Belews Creek Steam Station coal-fired electricity generating plant ("Belews Creek") in Stokes County, North Carolina, in violation of the Clean Water Act, 33 U.S.C. §§ 1251-1376.

2. At Belews Creek, Duke Energy is dumping untreated coal ash pollution directly into waters of the United States without a Clean Water Act permit authorizing these releases, and also in violation of its existing permit.

3. First, Duke Energy is violating an express provision of its Clean Water Act permit which requires it to prevent pollutants and other materials removed during wastewater treatment from entering groundwater or surface waters. Instead, Duke Energy has allowed coal ash, coal ash pollutants, and other materials removed during wastewater treatment to enter into the groundwater and surface waters at Belews Creek.

4. Second, Duke Energy is violating its permit requirement to properly operate and maintain its coal ash wastewater treatment basin at Belews Creek by allowing these violations to continue; by storing coal ash in the groundwater; and by operating a wastewater treatment facility that leaks into ground and surface waters.

5. Finally, Duke Energy has unlawfully appropriated a portion of Little Belews Creek, a water of the United States and North Carolina and a tributary of the Dan River, to be part of its coal ash wastewater pollution system. Duke Energy is polluting this jurisdictional waterbody with unpermitted discharges through seeps, hydrologically connected groundwater, and the coal ash basin's discharge structure.

6. As a result, the Dan River, Belews Lake, Little Belews Creek, other tributary streams, and groundwater are being polluted by the unpermitted and forbidden leaks of coal ash; raw, untreated coal ash water; leachate; heavy metals; carcinogens; and other contaminants. Duke Energy's contaminated coal ash leaks have also caused carcinogens to form in downstream drinking water systems that tens of thousands of people rely on.

7. As long as coal ash and other wastes remain in the unlined pit at Belews Creek, they will continue to leak pollutants into the groundwater and surface waters in

violation of the Clean Water Act. These leaks will continue to place the Dan River, Belews Lake, Little Belews Creek, tributary streams, groundwater, downstream drinking water supplies, and people who use these resources at risk of groundwater contamination, surface water contamination, and potential catastrophic failure of the coal ash impoundments.

JURISDICTION, VENUE, AND NOTICE

8. The Citizen Groups bring this enforcement action under the citizens' suit provision of the Clean Water Act. 33 U.S.C. § 1365. This court has jurisdiction over this action pursuant to 28 U.S.C. § 1331 and has jurisdiction over the parties.

9. Venue is proper in this court pursuant to 28 U.S.C. § 1391(b) and 33 U.S.C. § 1365(c)(1). Belews Creek Steam Station is located in, and all the challenged leaks and permit violations originate and are occurring in, Stokes County, North Carolina.

10. In compliance with 33 U.S.C. § 1365(b)(1)(A) and 40 C.F.R. § 135.2, on October 3, 2017, the Citizen Groups gave Duke Energy, the Administrator of the U.S. Environmental Protection Agency ("EPA"), and the North Carolina Department of Environmental Quality ("DEQ" or "the Department") notice of the violations specified in this complaint and of the Citizen Groups' intent to file suit after sixty days should those violations continue. A copy of the notice letter with documentation of its receipt is attached as Exhibit 1.

11. More than sixty days have passed since the notice was given pursuant to law and regulation, and the violations identified in the notice letter are continuing at this time and reasonably likely to continue in the future.

12. EPA and the Department have not commenced and are not diligently prosecuting a civil or criminal action to redress the violations asserted in this citizen enforcement action.

13. In 2013, citizen conservation groups represented by the Southern Environmental Law Center sent 60-Day Notices of Intent to Sue under the Clean Water Act to Duke Energy companies, EPA, and the Department. These notices set out violations of the Clean Water Act as a result of coal ash pollution by Duke Energy companies at their Asheville, Riverbend, and Sutton stations in North Carolina. In response to these notices, the Department filed a series of enforcement actions in North Carolina Superior Court purporting to take enforcement action against Duke Energy companies for violating North Carolina anti-pollution laws through their coal ash pollution at every site in North Carolina where Duke Energy companies have disposed of coal ash.

14. In August 2013, the Department filed an enforcement action against Duke Energy Carolinas, LLC, for violations of North Carolina's anti-pollution statutes at a number of its plants, including Belews Creek. Exhibit 2, Complaint, *State of North Carolina ex rel. N.C. DEQ v. Duke Energy Carolinas*, No. 13-CVS-14661 (Mecklenburg Cnty. Super. Ct.). The Department set out, under oath, that Duke Energy had illegal, unpermitted discharges from the Belews Creek coal ash pit in violation of its wastewater permit. *Id.* ¶¶ 130-33. The Department also set out, under oath, that groundwater monitoring wells at the Belews Creek coal ash site showed exceedances of state groundwater standards. *Id.* ¶¶ 134-38. The Department stated under oath that Duke

Energy's violations of law at Belews Creek "pose a serious danger to the health, safety, and welfare of the people of the State of North Carolina and serious harm to the water resources of the State." *Id.* ¶ 197.

15. However, unlike this citizen enforcement action, the Department's state court action does not recognize that a segment of Little Belews Creek is being used improperly by Duke Energy as a wastewater discharge channel. Thus it does not enforce the prohibitions against unpermitted discharges as they apply to and protect this segment of Little Belews Creek. *See id.* ¶ 130 ("[T]he Defendant's Belews Creek Steam Station has three permitted outfalls discharging directly into West Belews Creek/Belews Lake and the Dan River which are included in the Belews Creek Steam Station NPDES Permit."). In fact, the Department issued the wastewater permit that purports to authorize Duke Energy to treat this segment of Little Belews Creek as its private wastewater system. *See* ¶ 49 below.

16. Because the wastewater permit and state complaint do not recognize this segment of Little Belews Creek as a jurisdictional water, the state action does not encompass the Citizen Groups' claims in this action for unpermitted and illegal discharges of pollution into this jurisdictional water.

17. The Department also did not take enforcement action against any of Duke Energy's other violations of federal law at the Belews Creek plant, including its violations of the Removed Substances and the Operation and Maintenance provisions of its wastewater permit.

18. The North Carolina groundwater statutes and regulations alleged in the Department's Complaint govern generally the contamination of groundwater in North Carolina. The Removed Substances permit provision, on the other hand, is a standard, limitation, condition, and requirement of operating a wastewater treatment facility, such as the Belews Creek coal ash pit, which Duke Energy is allowed to operate only in accordance with the terms of its wastewater permit. The Department's complaint does not seek to enforce the Removed Substances provision, as this Court has affirmed in other recent Clean Water Act citizen suits. *See* Exhibit 3, Order on Motion to Dismiss at 9, *Roanoke River Basin Ass'n v. Duke Energy Progress, LLC*, No. 1:16-cv-607 (M.D.N.C. Apr. 26, 2017); *Yadkin Riverkeeper, Inc. v. Duke Energy Carolinas, LLC*, 141 F. Supp. 3d 428, 446 (M.D.N.C. 2015). The Removed Substances provision requires that the operator of a wastewater treatment facility ensure that the substances it removes during the treatment process (in this instance, settling) do not enter the waters of North Carolina or the navigable waters of the United States. Otherwise, the wastewater *treatment* facility is not a wastewater treatment facility at all, but instead is a wastewater *transmission* facility and a wastewater *pollution* facility, because it simply moves the removed substances from the wastewater into the waters of North Carolina or navigable waters of the United States and thereby pollutes those waters. That is exactly what Duke Energy has done and is doing at its Belews Creek coal ash pit.

19. The Department also does not seek to enforce Duke Energy's failure to properly operate and maintain its facilities, as the Belews Creek Permit requires. *See* Exhibit 3, Order on Motion to Dismiss at 9, *Roanoke River Basin Ass'n*, No. 1:16-c-v607

(The Department is not enforcing operation and maintenance permit provision with respect to Duke Energy's Mayo coal ash facility).

PARTIES AND STANDING

The Citizen Groups and Their Members

20. Appalachian Voices is a § 501(c)(3) non-profit public interest organization with members in North Carolina and Virginia, around and downstream of Duke Energy's Belews Creek coal ash site. Appalachian Voices advocates for healthy communities and environmental protection. It is committed to protecting the natural resources of central and southern Appalachia and surrounding areas, focusing on reducing the impact of coal on the region and working with local citizens to build a sustainable future.

21. The North Carolina State Conference of the NAACP ("North Carolina NAACP") and the Stokes County Branch of the NAACP ("Stokes County NAACP") are non-profit public interest organizations with members in North Carolina, Stokes County, and other counties around and downstream of Duke Energy's Belews Creek coal ash site. The NAACP is the nation's oldest and largest civil rights organization whose mission is to ensure the political, educational, social and economic equality of rights of all persons and to eliminate racial hatred and discrimination. The North Carolina NAACP and Stokes County NAACP work to promote this mission by engaging in local issues across the state and in Stokes County. The NAACP has also long been involved in seeking environmental justice for low income communities and for people of color. This work has happened at the state level and locally. At the state level, the North Carolina NAACP made achieving environmental justice a part of its 14 point plan. In the wake of the Dan

River coal ash spill, the North Carolina NAACP hosted a Moral Monday Town Hall in Eden, North Carolina, and called for action to protect residents from the harmful effects of coal ash.

22. Locally, the North Carolina and Stokes County NAACPs and their members have been actively engaged in public hearings, meetings, and forums to urge state leaders and Duke Energy to take appropriate action to halt the ongoing, unlawful coal ash pollution at Belews Creek. In March of 2016, the Stokes County NAACP held a community prayer vigil outside of the county courthouse before a state regulatory hearing on coal ash. The North Carolina Advisory Committee to the United States Civil Rights Commission held an April 7, 2016, hearing in Stokes County concerning Duke Energy's coal ash pollution and its effects on surrounding communities. Members of the North Carolina and Stokes County NAACP participated in that hearing, and the Committee later issued a report recommending that Duke Energy be required to excavate its coal ash from its polluting, unlined pit at Belews Creek.

23. Appalachian Voices, the Stokes County NAACP, the North Carolina NAACP, and their members have been harmed by Duke Energy's unpermitted coal ash leaks and unlawful activities. They swim, fish, boat, drink water, and own property around and downstream of the Belews Creek coal ash site, including at and around the Dan River, Belews Lake, and areas supplied by downstream drinking water intakes. They fear contamination of drinking water, wildlife, and surface waters by contamination from Duke Energy's coal ash lagoon. Duke Energy's leaks of pollutants and contaminants from the Belews Creek coal ash lagoon are reducing the use and enjoyment

of the Dan River, Belews Lake, downstream drinking water supplies, and water supply wells by these Citizen Groups and their members. These leaks are also reducing the value and use and enjoyment of these members' properties.

24. These injuries will not be redressed except by an order from this court assessing civil penalties against Duke Energy and requiring Duke Energy to take immediate and substantial action to stop the flow of contaminated water and pollutants into the Dan River, Belews Lake, and Little Belews Creek; to empty the unlined impoundment of all coal ash; to remediate groundwater contamination; and to comply with other relief sought in this action.

Defendant

25. Duke Energy Carolinas, LLC, is a North Carolina limited liability corporation with its headquarters in Charlotte, North Carolina. It is engaged in the generation, transmission, distribution, and sale of electricity. Duke Energy owns and operates the Belews Creek Steam Station, where the violations that gave rise to this action are occurring.

26. Duke Energy is a "person" within the meaning of 33 U.S.C. § 1362(5).

STATUTORY BACKGROUND

27. The Clean Water Act seeks to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." 33 U.S.C. § 1251(a). To accomplish that objective, Congress set the national goal that "the discharge of pollutants into the navigable waters be eliminated." *Id.* Accordingly, the Act prohibits the discharge of pollutants from a point source to waters of the United States except in compliance with,

among other conditions, a National Pollutant Discharge Elimination System or "NPDES" permit (also known as a wastewater permit) issued pursuant to 33 U.S.C. § 1342. 33 U.S.C. § 1311(a). Each violation of a wastewater permit—and each discharge of a pollutant that is not authorized by the permit—is a violation of the Clean Water Act. *Id.* §§ 1311(a); 1342(a); 1365(f).

28. Under the Clean Water Act, the term "pollutant" "is broadly defined to include, among other things, solid waste; industrial, municipal, and agricultural waste; sewage sludge; biological or radioactive materials; wrecked or discarded equipment; heat; rock; sand; and cellar dirt." *Nat'l Res. Def. Council, Inc. v. EPA*, 822 F.2d 104, 109 (D.C. Cir. 1987); 33 U.S.C. § 1362(6). "Coal ash and its constituents fall under the Clean Water Act definition of 'pollutants.'" Findings of Fact and Conclusions of Law, *Tenn. Clean Water Network v. Tenn. Valley Auth.*, No. 3:15-cv-00424, 2017 WL 3476069, at *51 (M.D. Tenn. Aug. 4, 2017).

29. The Clean Water Act defines a "point source" as "*any* discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, [or] container . . . from which pollutants are or may be discharged." 33 U.S.C. § 1362(14) (emphasis added). "The term 'point source' has been taken beyond pipes and ditches and now includes less discrete conveyances, such as cesspools and ponds." *N. Cal. River Watch v. City of Healdsburg*, No. C01-04686WHA, 2004 WL 201502, at *11 (N.D. Cal. Jan. 23, 2004) (citing *Cmty. Ass'n for Restoration v. Henry Bosma Dairy*, 305 F.3d 943, 955 (9th Cir. 2002)). Under this broad definition, the discharge of pollutants from coal ash lagoons, mining pits, slurry ponds, sediment basins,

and mining leachate collection systems have been held to be point sources. *E.g.*, *Yadkin Riverkeeper*, 141 F. Supp. 3d at 443-44; *U.S. v. Earth Sciences, Inc.*, 599 F.2d 368, 374 (10th Cir. 1979) ("[W]hether from a fissure in the dirt berm or overflow of a wall, the escape of liquid from the confined system is from a point source."); *Consolidation Coal Co. v. Costle*, 604 F.2d 239, 249-50 (4th Cir. 1979) (finding regulation of discharges from "coal preparation plant associated areas," which in turn included slurry ponds, drainage ponds, and coal refuse piles, was within Clean Water Act definition of point source), *rev'd on other grounds*, 449 U.S. 64 (1980).

30. In addition, a "point source need not be the original source of the pollutant; it need only convey the pollutant to 'navigable waters.'" *S. Fla. Water Mgmt. Dist. v. Miccosukee Tribe of Indians*, 541 U.S. 95, 105 (2004); *accord W. Va. Highlands Conservancy, Inc. v. Huffman*, 625 F.3d 159, 168 (4th Cir. 2010) (permits are required for discharges from point sources that "merely convey pollutants to navigable waters") (citation and internal quotation marks omitted). Thus, ditches and channels that convey pollutants—but are themselves not the original source—constitute point sources. This includes unintentional conveyance of pollutants, for example, through naturally-formed ditches, gullies, or fissures. *See Sierra Club v. Abston Constr. Co.*, 620 F.2d 41, 45 (5th Cir. 1980) (discharge from mining pits and spoil piles through naturally formed ditches caused by gravity flow at a coal mining site are point sources); *Earth Sciences*, 599 F.2d 368 (holding unintentional discharges of pollutants from a mine system designed to catch runoff from gold leaching site during periods of excess melting met the statutory definition of a point source); *N.C. Shellfish Growers Ass'n v. Holly Ridge Assocs.*, 278 F.

Supp. 2d 654, 679 (E.D.N.C. 2003) ("Notwithstanding that it may result from such natural phenomena as rainfall and gravity, the surface run-off of contaminated waters, once channeled or collected, constitutes discharge by a point source.") (citation omitted); *O'Leary v. Moyer's Landfill, Inc.*, 523 F. Supp. 642, 655 (E.D. Pa. 1981) (intent of the discharging entity is irrelevant).

31. This Court has confirmed that "[a]s confined and discrete conveyances, [coal ash] lagoons fall within the CWA's definition of 'point source.'" *Yadkin Riverkeeper*, 141 F. Supp. 3d at 444.

FACTS

32. Duke Energy owns and operates Belews Creek, a coal-fired electricity generating plant in Stokes County near Walnut Cove and Walnut Tree, North Carolina.

33. At Belews Creek, Duke Energy's unlined disposal and unlawful management of millions of tons of coal ash and polluted wastewater are contaminating waters of the United States and of North Carolina, including the Dan River, Belews Lake (also known as West Belews Creek), Little Belews Creek, other tributary streams, and groundwater.

34. Duke Energy has taken a segment of Little Belews Creek for its private use to fill with polluted wastewater.

35. The coal ash in the unlined Belews Creek impoundment sits more than 60 feet deep in the groundwater, allowing pollutants to leach out into the groundwater and surrounding environment. This contaminated groundwater also flows directly into jurisdictional surface waters, including the Dan River, Belews Lake, and Little Belews

Creek. Duke Energy is also polluting streams with unpermitted, illegal flows of coal ash pollution, and these streams flow into the Dan River, Belews Lake, and Little Belews Creek.

36. Duke Energy's coal ash lagoon at Belews Creek is identified in Figure 1-1 from Duke Energy's Comprehensive Site Assessment, reproduced in Figure 1 below with a label added to identify the location of Little Belews Creek. *See* HDR, Comprehensive Site Assessment, Belews Creek Steam Station Ash Basin, Figures (Sept. 9, 2015), *available at* http://edocs.deq.nc.gov/WaterResources/0/fol/307971/Row1.aspx (last updated Sept. 11, 2015). Belews Lake is shown to the south and southeast of the ash basin. Little Belews Creek emerges as a blue-line stream from the north end of the ash basin, and flows into the Dan River to the north.

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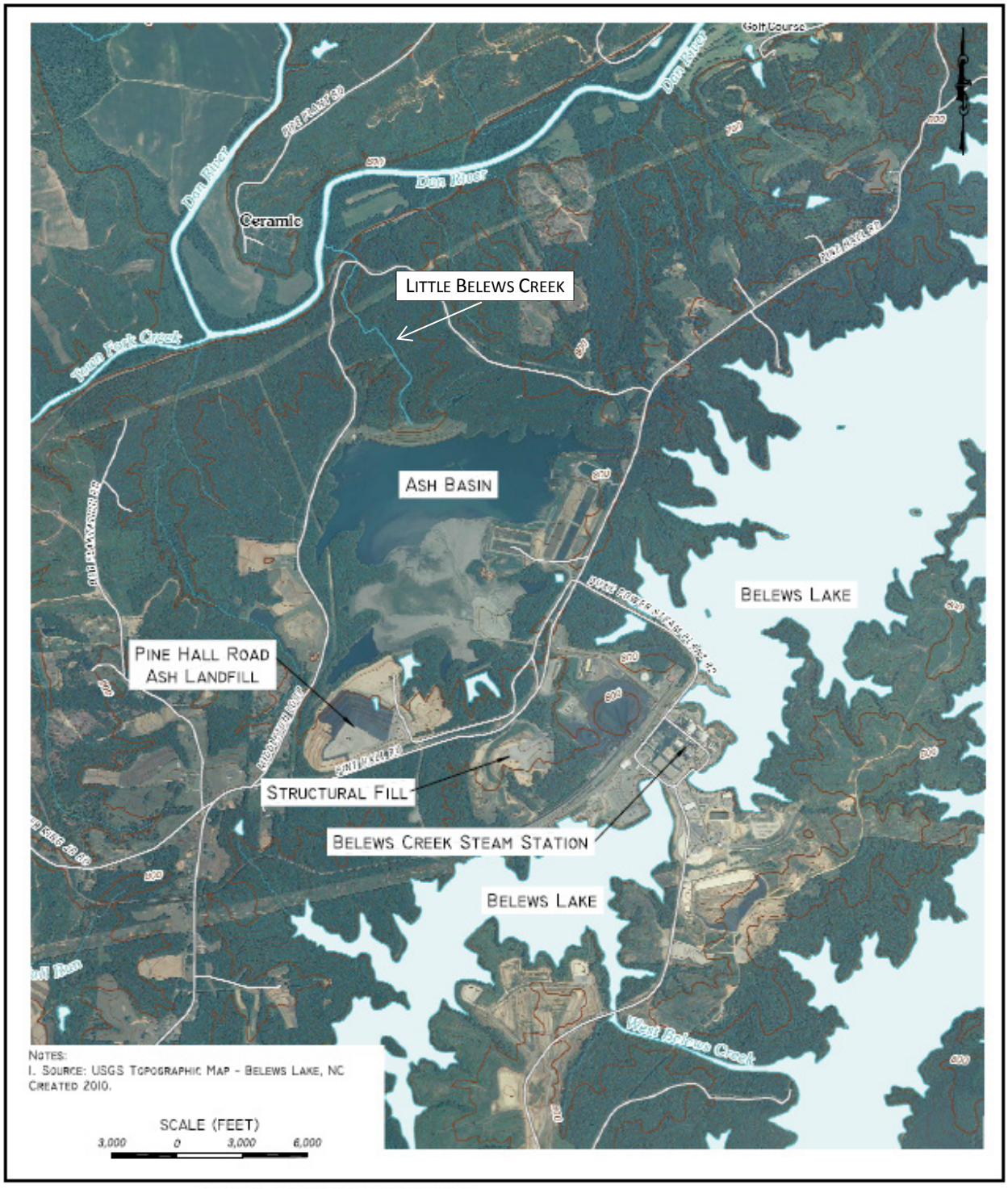
Figure 1: Belews Creek Site Map



SITE LOCATION MAP
DUKE ENERGY CAROLINAS, LLC
BELEWS CREEK STEAM STATION ASH BASIN

STOKES COUNTY, NORTH CAROLINA

DATE
AUGUST 2016

FIGURE
1-1

37. Duke Energy created the Belews Creek coal ash basin in 1972 by damming Little Belews Creek and sluicing wet coal ash and other substances into the impounded stream valley. The Belews Creek coal ash basin also receives other industrial waste streams from the chemical holding pond, power house and yard holding sumps, coal yard sumps, stormwater and remediated groundwater, and treated scrubber wastewater. In addition, groundwater and rain water flow through the coal ash pit. Duke Energy has dumped approximately 12 million tons of coal ash and other wastes into the unlined coal ash basin at Belews Creek.

38. Duke Energy is authorized to operate the Belews Creek coal ash basin as a wastewater treatment facility under a wastewater permit issued by the Department. Exhibit 4, Duke Energy, Permit No. NC0024406 for the Belews Creek Steam Station (referred to throughout as the "NPDES permit" or "wastewater permit"). Duke Energy committed to treat the wastewater through a settling process, in which sediments, solids, and other pollutants settle to the bottom of the pit. Then, supposedly treated wastewater is discharged through a permitted "outfall."

39. Ordinarily, a riser system would be used to skim the relatively cleaner wastewater from the top of a coal ash lagoon and then discharge it through multiple settling basins and ultimately through a pipe to a jurisdictional waterbody, in some cases after additional wastewater treatment to remove pollutants.

40. However, due to the serious and unlawful deficiencies in Duke Energy's operations, that is not how the Belews Creek coal ash system operates. Instead, untreated

coal ash wastes leak through the sides and bottom of the coal ash basin in multiple unlawful ways.

41. **Removed Substances.** First, Duke Energy is violating an express provision of its wastewater permit for the Belews Creek coal ash pit by allowing pollutants and other substances removed in the course of treatment to enter the groundwater and surface waters.

42. The coal ash settling basin at Belews Creek is a wastewater treatment system; its purpose is to treat and remove solids, sludges, and pollutants and keep them out of public waters. As a result, Duke Energy has an express permit obligation to prevent these materials and pollutants from entering public waters after they have been removed during the course of treatment.

43. The Removed Substances provision provides: "Solids, sludges, . . . or other pollutants removed during the course of treatment or control of wastewaters shall be utilized/disposed of . . . in a manner such as ***to prevent any pollutant from such materials from entering waters of the State or navigable waters of the United States***." Exhibit 4, Belews Creek Wastewater Permit, Part II, Section C.6 (emphasis added).

44. Instead, Duke Energy continues to allow the unpermitted and uncontrolled entrance of solids, sludges, and pollutants into the waters of the State and navigable waters of the United States. Instead of preventing these removed substances from entering the groundwater, Duke Energy has intentionally placed coal ash and coal ash pollutants directly in the groundwater. In addition, Duke Energy has allowed pollutants from untreated coal ash wastes to leak into the surrounding groundwater aquifer and

jurisdictional surface waters. And Duke Energy has created unpermitted channels to funnel polluted seeps into waters of North Carolina and the United States. Duke Energy's actions and failures are a straightforward violation of this straightforward provision of the permit.

45. Accordingly, by not preventing the entrance of its removed solids, sludges, and pollutants into State waters and waters of the United States—including the groundwater of North Carolina, the Dan River, Belews Lake, Little Belews Creek, and other unnamed streams around and beneath the ash basin—Duke Energy has violated and is violating its wastewater permit and thus the Clean Water Act.

46. **Operation and Maintenance.** Second, Duke Energy is also violating a provision of its permit that requires the company to "at all times properly operate and maintain all facilities and systems of treatment and control." Exhibit 4, Belews Creek Wastewater Permit, Part II, Section C.2.

47. **Little Belews Creek.** Finally, Duke Energy has also impermissibly appropriated a segment of Little Belews Creek as a wastewater disposal channel, polluting this waterbody without limit.

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Figure 2: Little Belews Creek As It Flows Under a Bridge Toward the Dan River

48. Little Belews Creek flows out of Duke Energy's coal ash basin to the north and into the Dan River. Little Belews Creek is a perennial, blue-line tributary of the Dan River. The entirety of Little Belews Creek is therefore a jurisdictional water of the United States. 40 C.F.R. § 122.2; 33 C.F.R. § 328.3(a). It is also a water of North Carolina. N.C. Gen. Stat. § 143–212(6) ("'Waters' means any stream, river, brook, swamp, lake, sound, tidal estuary, bay, creek, reservoir, waterway, or other body or accumulation of water, whether surface or underground, public or private, or natural or artificial, that is contained in, flows through, or borders upon any portion of this State . . .

.”). The U.S. Army Corps of Engineers has recognized Little Belews Creek as a jurisdictional water of the United States. Exhibit 5, Army Corps of Engineers 404 Permit for Belews Creek (Mar. 9, 2015) (explaining that repairs to the main dam, which was constructed across the upper reaches of Little Belews Creek, resulted in “impacts to the jurisdictional waters”).

49. Yet Duke Energy is illegally using a segment of Little Belews Creek as a wastewater discharge channel with no water quality protections. Duke Energy has arbitrarily chosen a point in the middle of the Dan River as its fictional “outfall” for the Belews Creek coal ash basin in its wastewater permit. However, the coal ash basin discharge structure—a two-foot pipe with a concrete flume box—empties into Little Belews Creek well before the Creek joins the Dan River. The location of the discharge structure and the point where it empties into Little Belews Creek, as well as the fictitious outfall 003 location, are shown in Figure 3 below. All labels and other identifiers in Figure 3 are reproduced from Duke Energy’s site assessment maps and its wastewater permit. *See* HDR, Comprehensive Site Assessment for Belews Creek fig.2-4 (identifying the location of “Little Belews Creek,” “Ash Basin,” “Ash Basin Discharge to Little Belews Creek,” and the “Discharge Tower”) and fig.4-3 (identifying the location of the 24” Diameter HDPE Discharge Structure) (Sept. 9, 2015), *available at* http://edocs.deq.nc.gov/WaterResources/0/doc/308094/Page1.aspx; Exhibit 6, Duke Energy, Belews Creek Wastewater Permit Map (last revised Nov. 2016) (identifying the geospatial coordinates of the permitted outfall 003 as 36°18’22.0”, - 80°04’50.7”).

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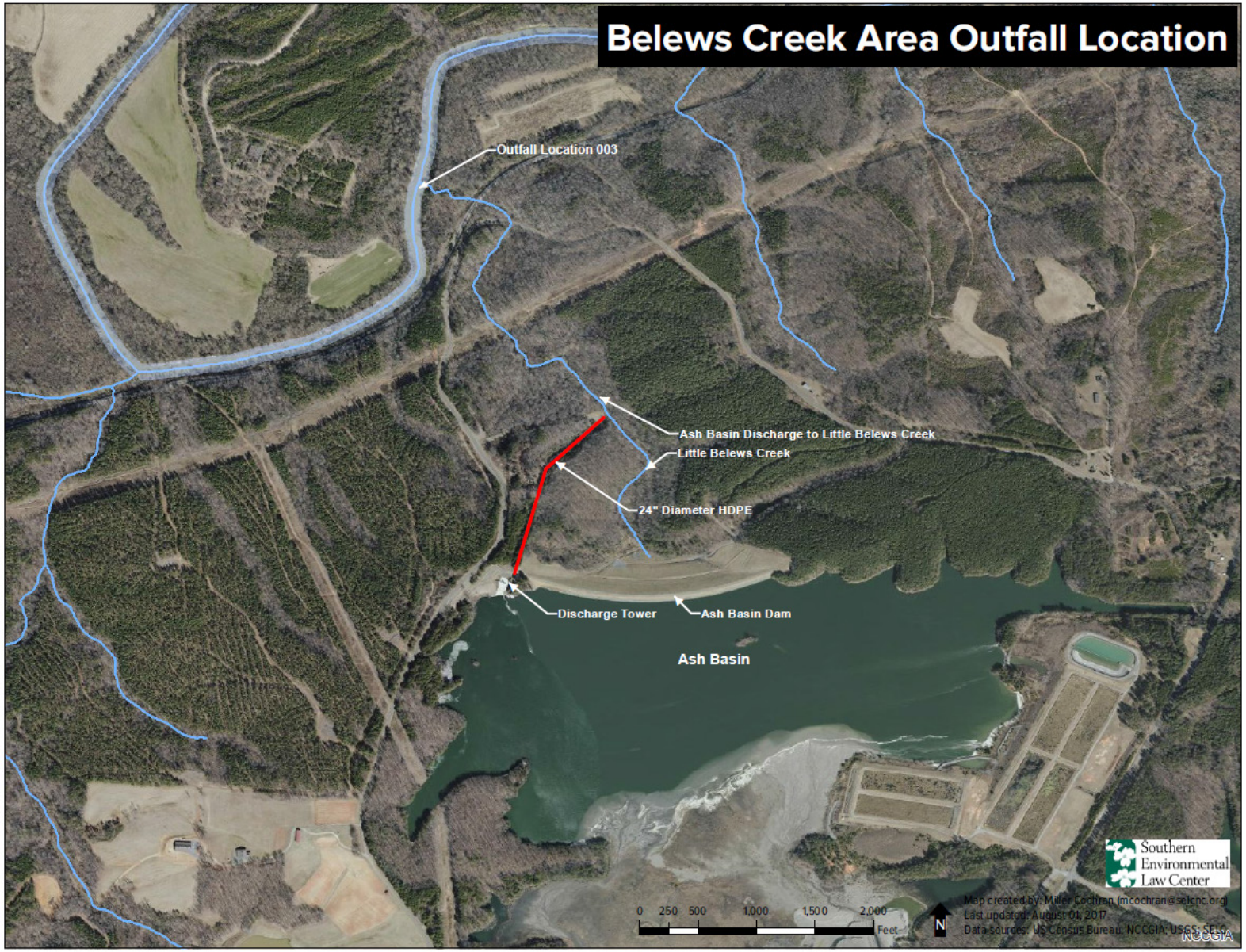
Figure 3: Map of Coal Ash Basin Discharge to Little Belews Creek and Permitted Outfall



50. From the point at which Little Belews Creek meets Duke Energy's discharge structure until it reaches the Dan River, Duke Energy is illegally using a segment of this jurisdictional water as part of its private coal ash wastewater system. Duke Energy does not attempt to comply with the Clean Water Act for any of its discharges into this waterbody.

51. This arrangement violates the Clean Water Act. The Clean Water Act regulates "***any addition*** of any pollutant ***to*** navigable waters ***from*** any point source." 33 U.S.C. § 1362(12) (emphasis added). A wastewater permit issued under the Clean Water Act must regulate the discharge of pollutants at the point where they *enter* navigable waters. The discharge occurs when pollutants are added to a jurisdictional waterbody, such as Little Belews Creek. Duke Energy's wastewater permit wrongly places the coal ash basin outfall—and therefore the start of water quality protections—not at the end of the discharge structure where it empties into Little Belews Creek, but instead approximately half a mile downstream in the middle of the Dan River.

52. Because the permitted outfall at the Belews Creek wastewater treatment facility is far downstream of the point where the discharge from the coal ash basin enters navigable waters, it is not a valid point at which to regulate the addition of pollutants to navigable waters of the United States under the Clean Water Act.

53. As a result, the Belews Creek wastewater permit does not validly authorize the discharge of pollutants from Duke Energy's coal ash pond into any waters of the United States and North Carolina. The Belews Creek wastewater permit does not validly authorize the discharge of pollutants into Little Belews Creek. And for the same reason,

it does not validly authorize the discharge of pollutants into the Dan River, because Duke Energy's coal ash pollutants have already entered jurisdictional waters of the United States prior to reaching the Dan River.

54. A wastewater permit cannot deliberately fail to protect water quality by erroneously declaring waters of the United States to be a waste treatment facility. Such an absurd result would directly contradict the Clean Water Act's objective of restoring and maintaining the chemical, physical, and biological integrity of the Nation's waters and the wastewater permitting program's goal of eliminating discharges of pollutants into navigable waters. 33 U.S.C. § 1251(a).

55. Nothing in the Clean Water Act allows a polluter and a state agency to label a jurisdictional stream as an outfall and somehow remove it from the definition of waters of the United States. Duke Energy cannot paper over its ongoing, illegal pollution of jurisdictional waters. By a wastewater permit or otherwise, Duke Energy cannot remove Little Belews Creek from the waters of the United States.

56. Duke Energy attempted to employ a similar arrangement at its Sutton coal ash facility in Wilmington, N.C. There, Duke Energy's coal ash impoundments similarly discharged into a jurisdictional water—a lake that Duke Energy created by impounding a jurisdictional stream—under a permit that purported to allow Duke Energy to contaminate this waterbody without limit. Duke Energy argued that its wastewater permit, which purported to allow the "internal" discharges to Sutton Lake, should shield it from liability under the Clean Water Act.

57. The U.S. District Court for the Eastern District of North Carolina rejected Duke Energy's attempt to use its Sutton wastewater permit as a shield that allowed it to treat a jurisdictional waterbody as part of its wastewater treatment system, polluting it without limit. *Cape Fear River Watch, Inc. v. Duke Energy Progress, Inc.*, 25 F. Supp. 3d 798 (E.D.N.C. June 9, 2014), *amended,* No. 7:13-CV-200-FL, 2014 WL 10991530 (E.D.N.C. Aug. 1, 2014). The court noted that the permit itself "may violate the CWA" and ruled that the conservation groups were not required to administratively challenge the issuance of the wastewater permit "where the state agency fails to uphold fundamental requirements of the CWA." *Id.* at 811 (citing *Dubois v. U.S. Dep't of Agric.*, 102 F.3d 1273, 1300 (1st Cir. 1996)). Where the permitting authority "has failed to fulfill its duties under the Act by issuing NPDES permits that do not comply with the Clean Water Act and its implementing regulations," the permit is not valid. *Miccosukee Tribe of Indians of Fla. v. U.S.*, 706 F. Supp. 2d 1296, 1302 (S.D. Fla. 2010), *aff'd* 498 Fed. App'x 899 (11th Cir. 2012) (per curiam).

58. At Sutton, the federal district court's ruling prompted the Department to acknowledge that Sutton Lake was a water of the state and forced Duke Energy to obtain a new wastewater permit that recognizes Sutton Lake as a water of the United States. For the first time, the permit requires Duke Energy to treat its discharges into the lake by putting in place an extensive wastewater treatment system to meet new effluent discharge limits. Moreover, the North Carolina Superior Court issued an order directing Duke Energy to remove all the coal ash from the unlined impoundments at Sutton to dry, lined, landfill storage. Excavation of the coal ash at Sutton is now well underway.

59. Instead of implementing this solution at Belews Creek, Duke Energy is repeating its mistake at Sutton by treating the downstream segment of Little Belews Creek, a jurisdictional water just like Sutton Lake, as Duke Energy's wastewater discharge channel rather than a water of the United States.

60. This segment of Little Belews Creek is contaminated by Duke Energy's coal ash basin in several ways. First, Duke Energy discharges without limit from its permitted discharge structure into Little Belews Creek. The discharge structure for Belews Creek coal ash basin previously discharged directly into Belews Lake, which EPA designated as a 'proven environmental damage case' due to coal ash contamination. "[D]ue to environmental concerns within Belews Lake," Duke Energy relocated its permitted discharge structure so that the contaminated discharges now flow into Little Belews Creek. Exhibit 7, Excerpt of CHA, Assessment of Dam Safety Coal Combustion Surface Impoundments, Belews Creek Steam Station 7 (Dec. 8, 2009). Second, contaminated wastewater flows from the coal ash basin through engineered and non-engineered seeps into this segment of Little Belews Creek without a wastewater permit. *See* ¶¶ 66-67 below. Finally, Duke Energy also discharges pollutants from the coal ash lagoons via hydrologically connected groundwater into Little Belews Creek.

61. Through all of these Clean Water Act violations, Duke Energy's illegal coal ash pollution at Belews Creek has contaminated the groundwater, seeps, and surface waters—including the Dan River, Belews Lake, and Little Belews Creek—with elevated levels of numerous pollutants.

62. **Impacts to Groundwater.** Monitoring well data from the site shows Duke Energy's disposal of coal ash in the unlined lagoons has caused pollutants such as aluminum, arsenic, barium, boron, bromide, chloride, copper, iron, manganese, mercury, molybdenum, nickel, radionuclides, selenium, sulfate, strontium, total dissolved solids, vanadium, and zinc to enter the groundwater. *See* DEQ, Comprehensive and Ongoing Sample Results from Duke for Belews Creek, *available at* http://edocs.deq.nc.gov/WaterResources/0/fol/608422/Row1.aspx (last updated Nov. 15, 2017). Table 1 below shows examples of high levels of these pollutants found in Duke Energy's groundwater monitoring wells. To illustrate the magnitude of this contamination, the table also includes a comparison to the respective state regulatory groundwater standards. Table 1 also shows that these levels are much higher than the highest background value that Duke Energy has calculated for the area, confirming that Duke Energy's coal ash is the source of this pollution. *See* Duke Energy Background Values, *available at* http://edocs.deq.nc.gov/WaterResources/0/edoc/597360/TABLE%202%20%20-%20Belews%20Creek%20GW%20BG%20Threshold%20Values.xlsx (last updated Oct. 6, 2017). Many of the wells that Duke Energy has designated as background wells may in reality be impacted by coal ash contamination, meaning that the level of contamination compared to true background levels may be even higher.

Table 1: High Levels of Contamination in Groundwater and Comparison to State Groundwater Quality Standards and Background Levels (in parts per billion)

	Groundwater	Highest	Contamination

	Quality Standard	Background Value	Level
Aluminum	50-200	860	11,700
Arsenic	10	1	134
Barium	700	58	1,510
Boron	700	50	31,100
Chloride	250,000	21	487,000
Chromium	10	5	269
Copper	Narrative	10	215
Hexavalent Chromium	0.07	2	79
Iron	300	750	92,200
Manganese	50	55	21,300
Molybdenum	Narrative	4	38.3
Nickel	100	5	139
Radium-226 and -228	5 pCi/L	9 pCi/L	19 pCi/L
Selenium	20	1	378
Sulfate	250,000	10	1,676,000
Strontium	Narrative	100	15,900
Thallium	0.2	0.2	4
Total Dissolved Solids	500,000	148	5,480,000
Vanadium	0.3	2	218

63. This contaminated groundwater in turn flows to Little Belews Creek, the Dan River, Belews Lake, and other tributary streams.

64. The contaminated groundwater also flows in the direction of neighboring drinking wells to the northeast and west of the Belews Creek coal ash basin. *See* HDR, Comprehensive Site Assessment Supplement 2, Belews Creek Steam Station Ash Basin, fig.3-3 (Aug. 11, 2016), *available at* http://edocs.deq.nc.gov/WaterResources/0/fol/399036/Row1.aspx (last modified Aug. 12,

2016); Exhibit 8, Excerpt of HDR, Revised Groundwater Flow and Transport Model, Belews Creek Steam Station Ash Basin Figures, fig.13 (Sept. 27, 2016). In 2015, residents who rely on more than two dozen drinking wells near the Belews Creek site were told by the State not to use their water for drinking or cooking due to elevated levels of arsenic and other pollutants.

65. Belews Creek is the only one of Duke Energy's coal ash sites that is not being excavated where Duke Energy has admitted that there are "demonstrated offsite groundwater impacts." Exhibit 9, Settlement Agreement at 6, *Duke Energy v. DEQ*, 15 EHR 02581 (Sept. 29, 2015).

66. **Impacts to Surface Flows.** Duke Energy is releasing pollutants from its Belews Creek coal ash basin through numerous leaking streams of polluted wastewater flowing over the surface into the Dan River, Belews Lake, Little Belews Creek, and downstream drinking water supplies. The unpermitted surface flows include those identified in Duke Energy's site assessment (S-1 through S-11, S-3/AOW-003, HD-7A, HD-11A, HD-21, HD-26, TF-1, TF-2, TF-3, ABW, BCSW018A, BCSW019), as well as additional seeps identified by the Department (S-12 through S-15). *See* HDR, Comprehensive Site Assessment Supplement 2, Belews Creek Steam Station Ash Basin, fig.1-2 (Aug. 11, 2016), *available at* http://edocs.deq.nc.gov/WaterResources/0/doc/399038/Page1.aspx; Exhibit 10, DEQ,

Belews Creek Draft Wastewater Permit, Seeps Map (Jan. 15, 2017).[1] Many of these seeps are non-engineered leaks that emerge from the Belews Creek coal ash basin's earthen dam and surrounding areas (*e.g.*, S-1 through S-15, BCSW018A, BCSW019). Others are engineered seeps such as horizontal drains, toe drains, and flumes that Duke Energy has intentionally constructed without a permit (*e.g.*, HD-7A, HD-11A, HD-21, HD-26, TF-1, TF-2, TF-3, ABW).

67. Duke Energy's contaminated seeps flow into the Dan River (*e.g.*, S-1, S-2, S-3, S-4, S-5, S-10, S-11, HD-7A, HD-11A, HD-21, HD-26, TF-1, TF-2, TF-3), Belews Lake (*e.g.*, S-6, S-7, S-8, S-9, BCSW018A, BCSW019), and Little Belews Creek (*e.g.*, S-3/AOW-003, S-10, S-11, HD-7A, HD-11A, HD-21, HD-26, TF-1, TF-2, TF-3). All of these are protected waters of the United States and of North Carolina. Indeed, many of the seeps themselves are jurisdictional waters. Contamination from these seeps also flows into downstream drinking water supplies, causing carcinogens to form.

68. Many of these seeps are themselves jurisdictional tributaries that are being illegally polluted by Duke Energy with unpermitted discharges of coal ash pollutants into these jurisdictional waters. For example, the Department has recognized that seeps S-2 (which flows into the Dan River), S-6 (which flows into Belews Lake), and S-15 (which flows into Little Belews Creek) are jurisdictional waters. Exhibit 11, DEQ, Belews Creek Draft Wastewater Permit Fact Sheet, at 2 (Jan. 15, 2017). Other seeps are likely

[1] Although the seeps are identified by single points in these documents, these points merely represent single locations on the maps that the seeps intersect, rather than the entire length of the seep.

jurisdictional waters as well. Duke Energy describes seeps S-1 through S-11 as water bodies with "continuous" flow, many of which are "tributar[ies]" and "well defined stream[s]," and most of which range from three to six feet in width. Duke Energy, NPDES Permit Modification, Belews Creek Steam Station Application, tbl.1 (July 29, 2014). Any seeps that are not themselves jurisdictional waters are still contaminating jurisdictional waters that they flow into.

69. According to measurements by Duke Energy's own consultants, the contaminated seepage flowing from the Belews Creek coal ash basin totals over 200,000 cubic feet per day, which translates to well over half a billion gallons per year. *See* Exhibit 12, Excerpt of HDR, Revised Groundwater Flow and Transport Model, Belews Steam Station Ash Basin, tbl.5 (Sept. 27, 2016). These measurements include only some of the seeps identified above (S-1 through S-11), meaning that the total seepage flow is even greater.

70. The seeps from the Belews Creek coal ash basin are contaminated with high levels of numerous pollutants, including aluminum, arsenic, barium, boron, bromide, chloride, copper, iron, manganese, mercury, molybdenum, nickel, selenium, sulfate, strontium, TDS, vanadium, and zinc. *See* DEQ, Comprehensive and Ongoing Sample Results from Duke, http://edocs.deq.nc.gov/WaterResources/0/fol/608422/Row1.aspx (last updated Nov. 15, 2017); HDR, Comprehensive Site Assessment Tables, tbls.7-12, 7-13 (Sept. 9, 2015), *available at* http://edocs.deq.nc.gov/WaterResources/0/fol/307972/Row1.aspx; Exhibit 13, Pace Analytical, Analytical Results from Little Belews Creek Sample Taken Dec. 9, 2016 (Jan.

11, 2017). The contamination in these seeps has been detected at levels as high or higher than those shown below in Table 2. Table 2 also presents a comparison to surface water standards to illustrate the magnitude of this pollution. As explained above, many of these contaminated seeps are themselves jurisdictional tributaries that are being polluted above surface water quality standards.

Table 2: Levels of Certain Contaminants in Seeps and Comparison to State Surface Water Quality Standards (in parts per billion)

	Surface Water Quality Standard	Contamination Level
Aluminum	87	6,400
Arsenic	10	17
Boron	Narrative	13,200
Cobalt	3	268
Chloride	230,000	456,000
Iron	1,000	13,400
Manganese	Narrative	22,700
Mercury	0.012	4.36
Nickel	25	47
Selenium	5	12
Sulfate	250,000	475,000
Thallium	0.24	0.6
Total Dissolved Solids	250,000	1,360,000

71. **Impacts to Little Belews Creek.** Duke Energy's pollution at Belews Creek continues to cause significant surface water contamination and exceedances of surface water quality standards for numerous pollutants in Little Belews Creek. Immediately downstream of seeps and contaminated groundwater leaking from the coal ash basin into Little Belews Creek, exceedances of surface water quality standards for

pollutants such as selenium, thallium, mercury, cobalt, aluminum, chloride, and total dissolved solids have been detected. Exhibit 13, Pace Analytical, Analytical Results from Little Belews Creek Sample Taken Dec. 9, 2016 (Jan. 11, 2017); DEQ, Comprehensive and Ongoing Sample Results from Duke (results for SW-10), http://edocs.deq.nc.gov/WaterResources/0/fol/608422/Row1.aspx (last updated Nov. 15, 2017). High levels of boron and bromide have also been detected in Little Belews Creek. These contaminants have been discovered at levels as high as or higher than the levels in Table 3 below. All of these pollutants were found in samples collected downstream of the coal ash basin and its seeps, but upstream of the permitted discharge structure conveying wastewater discharges into the creek, meaning that all of this pollution is the result of the unpermitted seeps and groundwater contamination leaking into Little Belews Creek.

Table 3: Levels of Certain Contaminants in Little Belews Creek, Downstream of Seeps and Upstream of Permitted Discharge Structure (in parts per billion)

	Surface Water Quality Standard	Contamination Level
Aluminum	87	440
Boron	Narrative	9,860
Bromide	Narrative	5,200
Calcium	Narrative	172,000
Chloride	230,000	437,000
Total Dissolved Solids	500,000	1,210,000
Cobalt	3	69
Manganese	Narrative	7,740
Mercury	0.012	90

Selenium	5	12.7
Thallium	0.24	0.56

72. Surface water quality standard exceedances are also pervasive further downstream in Little Belews Creek. These surface water quality standards are designed to protect fish and other aquatic life, as well as human health. Yet Duke Energy is blatantly disregarding these surface water quality standards in the segment of Little Belews Creek downstream of the coal ash basin's permitted discharge structure, which Duke Energy treats as part of its wastewater discharge system.

73. Duke Energy has also buried parts of Little Belews Creek with roughly 12 million tons of coal ash at the Belews Creek site. In 1972, Duke Energy created the Belews Creek coal ash basin by constructing a dam (known as the main dam) across the upper reaches of Little Belews Creek.

74. Before the construction of the Belews Creek coal ash basin, community members enjoyed fishing in Little Belews Creek. According to Duke Energy's own ecological assessment for Belews Creek, a "variety of small and large fish and benthic macroinvertebrates were observed within the perennial flowing systems," including Little Belews Creek. HDR, Comprehensive Site Assessment, Belews Creek Steam Station Ash Basin, Appendix I at A-27 (Sept. 9, 2015), *available at* http://edocs.deq.nc.gov/WaterResources/0/doc/307984/Page1.aspx. Duke Energy's ecological risk assessment for Belews Creek shows that the contamination in the vicinity of Little Belews Creek exceeds the hazard quotient for species such as the great blue heron. HDR, Belews Creek Corrective Action Plan Part 2, Appx. F, Baseline Human

Health and Ecological Risk Assessment, at 50, fig.2-5 (Mar. 4, 2016), *available at* http://edocs.deq.nc.gov/WaterResources/0/doc/360898/Page1.aspx.

75. **Impacts to the Dan River.** Duke Energy's illegal coal ash pollution at Belews Creek also contributes to exceedances of surface water quality standards in the Dan River. Downstream of Duke Energy's contaminated seeps, there are persistent water quality standard exceedances for pollutants such as thallium, manganese, and total dissolved solids in the Dan River. Elevated levels of arsenic, boron, calcium, chloride, strontium, sulfate, cobalt, and selenium have also been detected in the Dan River downstream of Duke Energy's unlawful leaks. *See* DEQ, Comprehensive and Ongoing Sample Results from Duke, *available at* http://edocs.deq.nc.gov/WaterResources/0/fol/608422/Row1.aspx (last updated Nov. 15, 2017). In the sampling location on the Dan River that Duke Energy identifies as upstream of the coal ash discharge, these pollutants are generally either not detected or detected at far lower levels, as shown in the chart below (from Duke Energy's latest, July 2017 sampling results). *Id.*

Table 3: Levels of Certain Contaminants Upstream and Downstream in the Dan River (in parts per billion)

	Upstream Contamination Level (SW-DR-U)	Downstream Contamination Level (SW-DR-D)
Arsenic	0.16	3.7
Boron	Not Detected	6,320
Calcium	5.36	104
Chloride	3.7	216

Strontium	41.6	455
Sulfate	2.5	70.8
Total Dissolved Solids	35	609
Cobalt	0.16	1
Manganese	29.1	201
Selenium	Not Detected	6
Thallium	Not Detected	0.43

76. Although Duke Energy has collected samples of bromide—which causes carcinogens to form in downstream drinking water systems—upstream and downstream in the Dan River, it has not disclosed those sample results to the public or to DEQ. Exhibit 14, Duke 30(b)(6) Testimony of Zachary Hall at 24:2-25:3 (Feb. 10, 2017). However, Duke Energy has testified that it believes that concentrations of bromide in the Dan River upstream of the Belews Creek coal operations are approximately 20 to 25 parts per billion, compared to 90 to 110 parts per billion downstream. *Id.* at 77:8-78:8.

77. The Dan River has already suffered significant harm from Duke Energy's coal ash pollution through the years. In February 2014, Duke Energy's Dan River coal ash site failed, dumping millions of gallons of polluted water and 39,000 tons of coal ash into the Dan River. Duke Energy removed less than 10 percent of the coal ash it spilled, leaving the rest in the river. An advisory by the North Carolina Department of Health and Human Services warning people not to eat the fish downstream of the spill remained in place for years. Fish Consumption Advisories, Current Advisories for N.C., http://epi.publichealth.nc.gov/oee/fish/advisories.html (last updated Nov. 29, 2017). And as described below, downstream drinking water providers along the Dan River continue

to struggle with elevated levels of carcinogens resulting from Duke Energy's Belews Creek coal ash discharges.

78. **Impacts to Belews Lake.** Duke Energy also releases high levels of pollutants directly into Belews Lake. For example, in the seeps that enter Belews Lake, boron has been detected as high as 3,900 parts per billion; aluminum as high as 6,400 parts per billion; cobalt as high as 2.9 parts per billion; iron as high as 8,200 parts per billion; manganese as high as 500 parts per billion; mercury as high as 4.36 parts per billion; selenium as high as 6.2 parts per billion; and sulfate as high as 342,000 parts per billion.

79. In past decades, coal ash pollution from the Belews Creek site has devastated the fish population in Belews Lake, eliminating 19 of the 20 fish species present in Belews Lake. In 2007, EPA classified Belews Lake a "proven ecological damage case" due to selenium poisoning from leaking coal ash pits at the Belews Creek plant. Exhibit 15, Excerpt of EPA Office of Solid Waste, Coal Combustion Waste Damage Case Assessments at 25 (July 9, 2007). Selenium bio-accumulates and persists in the environment, and birds that feed in Belews Lake continue to experience adverse effects from selenium poisoning. According to Duke Energy's own studies, selenium concentrations in fish tissue continue to be two to three times higher downstream of the Belews Creek coal ash site, compared to upstream concentrations. Exhibit 16, Excerpt of Duke Energy, Belews Creek Steam Station, 2013 Dan River Summary at 2-3 (Dec. 2014).

80. **Impacts to Downstream Drinking Water Supplies.** Pollution from the Belews Creek coal ash basin is also contaminating municipal drinking water supplies downstream along the Dan River.

81. In 2011, downstream drinking water providers along the Dan River traced spikes in carcinogens to bromide discharges from the Belews Creek coal ash basin. Exhibit 17, Excerpt of Joint Factual Statement at 52-53, *United States v. Duke Energy*, No. 5:15-CR-62-H (May 14, 2015). These carcinogens are called trihalomethanes, and form when bromide mixes with chlorine in drinking water supplies. For two types of trihalomethanes that are formed by bromide, bromodichloromethane and bromoform, EPA set a maximum contaminant level goal of zero—meaning that people should not be exposed to any level of these carcinogens because no level is safe for human health.

82. At the time that downstream drinking water providers discovered this contamination, Duke Energy had not even informed the Department that bromide was present in its coal ash basin discharges. Bromide is present in coal itself; in the coal combustion residuals captured by air pollution scrubbers; and in scrubber wastewater. As a result, high levels of bromide are present in Duke Energy's Belews Creek coal ash basin and in its illegal coal ash leaks. Elevated levels of bromide have been detected in Little Belews Creek immediately downstream of Duke Energy's unpermitted seeps, as well as downstream in the Dan River.

83. In conjunction with its criminal plea agreement and in subsequent testimony, Duke Energy has admitted that its bromide discharges at Belews Creek have contributed to trihalomethane formation in downstream drinking water systems, including

the drinking water systems for Madison and Eden, North Carolina. *Id.*; Exhibit 14, Duke 30(b)(6) Testimony of Zachary Hall at 38:21-25. Elevated levels of trihalomethanes have also been found in other drinking water systems downstream of the Belews Creek coal ash site, such as Danville and Halifax County, Virginia. These drinking water systems downstream of Belews Creek collectively serve approximately 90,000 people.

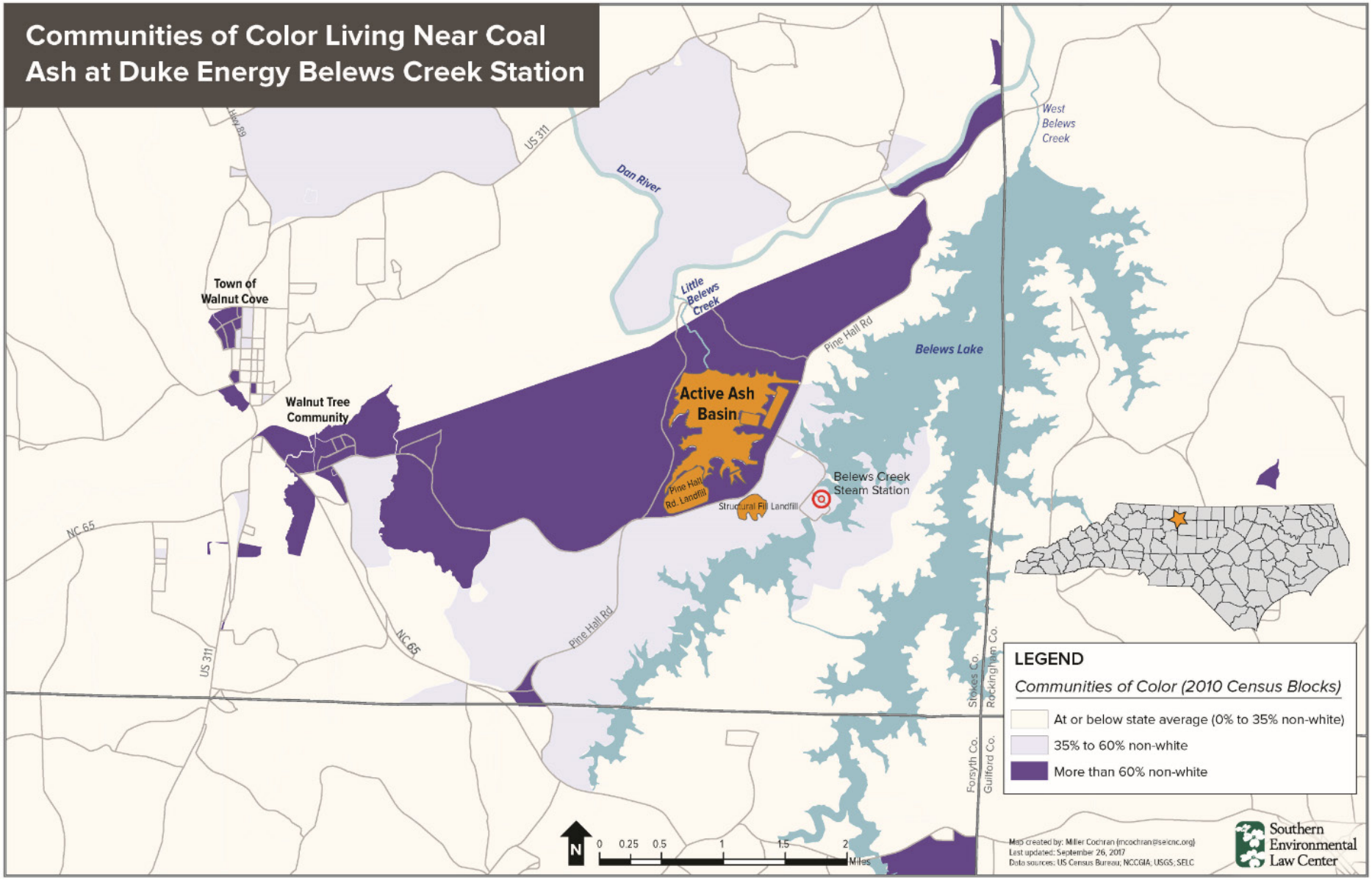
84. **Other Downstream Impacts.** Duke Energy's own consultants determined that recreational and subsistence fishers are exposed to "unacceptable" elevated health risks downstream of the Belews Creek coal ash site. HDR, Belews Creek Corrective Action Plan Part 2, Appx. F, Baseline Human Health and Ecological Risk Assessment at 53 (Mar. 4, 2016), *available at* http://edocs.deq.nc.gov/WaterResources/0/doc/360898/Page1.aspx. The consultants also determined that the contamination exceeds the hazard quotient for mammals and birds, such as the great blue heron. *Id.* at 50. The Department recently concluded that Duke Energy has not provided information demonstrating a balanced, indigenous population of fish and other aquatic life downstream of the Belews Creek site. Exhibit 11, DEQ, Belews Creek Draft Wastewater Permit Fact Sheet at 6 (Jan. 15, 2017).

85. **Other Impacts to the Community.** The communities beside the Belews Creek coal ash site, including the Walnut Tree community and other neighboring communities, are predominantly African-American. Figure 4 below shows the proximity of the leaking Belews Creek coal ash lagoon to communities of color. In response to public testimony at a town hall meeting near the Belews Creek site on the dangers posed by Duke Energy's coal ash disposal, the North Carolina Advisory Committee to the U.S.

Commission on Civil Rights concluded that "***the minimum standard for all coal ash storage is in lined, watertight landfills away from drinking water sources***." U.S. Comm'n on Civil Rights, *Environmental Justice: Examining the Environmental Protection Agency's Compliance and Enforcement of Title VI and Executive Order 12,898*, at 201 (Sept. 2016), *available at* http://www.usccr.gov/pubs/Statutory_Enforcement_Report2016.pdf (emphasis added).

(continued on next page)

Figure 4: Communities of Color Living Near Coal Ash at Duke Energy's Belews Creek Station



86. If Duke Energy ceased its unpermitted leaks into waters of the United States and complied with all of the provisions of its existing permit, then the ongoing, unlawful pollution from the coal ash basin to these waters would be eliminated.

87. The U.S. District Court for the Middle District of Tennessee recently held that the Tennessee Valley Authority was similarly violating the Clean Water Act and its Clean Water Act permit at its Gallatin coal ash site, and ordered the utility to excavate all of its coal ash at that site to remedy those violations. In that case, the Tennessee Valley Authority was violating the Clean Water Act by releasing unpermitted discharges of coal ash wastes through leaks from two coal ash sites into the Cumberland River, and by discharging coal ash wastes in violation of the removed substances provision of its permit—violations that are also occurring at Duke Energy's Belews Creek coal ash basin. The court concluded that excavation of the coal ash from unlined pits to lined storage "is the only adequate resolution to an untenable situation that has gone on for far too long. . . . While the decision to build the Ash Pond Complex is in the past, the consequences of that decision continue today, and it now falls on the Court to address them. The way to do so is not to cover over those decades-old mistakes, but to pull them up by their roots." *Tenn. Clean Water Network*, 2017 WL 3476069, at *63.

88. **Toxic Effects of Pollutants.** According to the U.S. Agency for Toxic Substances and Disease Registry ("ATSDR"), some studies show that people exposed to high levels of aluminum may develop Alzheimer's disease. People with kidney disease have trouble removing aluminum from their system.

89. Arsenic is a known carcinogen that causes multiple forms of cancer in humans. It is also a toxic pollutant, 40 C.F.R. § 401.15, and a priority pollutant, 40 C.F.R. Part 423 App'x A. Arsenic is also associated with non-cancer health effects of the skin and the nervous system.

90. Antimony is listed as a toxic pollutant, 40 C.F.R. § 401.15, and is associated with reduced lifespan, decreased blood glucose, and altered cholesterol in rodents, and with vomiting and cardiac and respiratory effects in humans.

91. Barium can cause gastrointestinal disturbances and muscular weakness. Ingesting large amounts, dissolved in water, can change heart rhythm and can cause paralysis and possibly death. Barium can also cause increased blood pressure.

92. Drinking water containing beryllium in excess of the maximum contaminant level of 4 parts per billion can lead to intestinal lesions, according to EPA. Beryllium in drinking water may also pose a cancer risk in humans. Beryllium is a toxic pollutant, 40 C.F.R. § 401.15.

93. Oral exposure to boron has led to developmental and reproductive toxicity in multiple species. Specific effects include testicular degeneration, reduced sperm count, reduced birth weight, and birth defects.

94. Bromides mix with chlorine in downstream drinking water intakes to form dangerous carcinogens known as trihalomethanes. EPA set a maximum contaminant level goal of zero for some of these brominated trihalomethanes, meaning that people should not be exposed to any level of these carcinogens because they are unsafe for human health at any level.

95. Chronic exposure to cadmium, a toxic pollutant, 40 C.F.R. § 401.15, can result in kidney disease and obstructive lung diseases such as emphysema. Cadmium may also be related to increased blood pressure (hypertension) and is a possible lung carcinogen. Cadmium affects calcium metabolism and can result in bone mineral loss and associate bone loss, osteoporosis, and bone fractures.

96. Chromium is a toxic pollutant, 40 C.F.R. § 401.15, and oral exposure to hexavalent chromium, a human carcinogen, has been found to cause cancers of the stomach and mouth. Exposure to the skin may cause dermatitis, sensitivity, and ulceration of the skin.

97. The International Agency for Research on Cancer ("IARC") has determined that cobalt is possibly carcinogenic to humans. Short-term exposure of rats to high levels of cobalt in the food or drinking water resulted in effects on the blood, liver, kidneys, and heart. Longer-term exposure of rats, mice, and guinea pigs to lower levels of cobalt in the food or drinking water results in effects on the same tissues (heart, liver, kidneys, and blood) as well as the testes, and also caused effects on behavior. Sores were seen on the skin of guinea pigs following skin contact with cobalt for 18 days.

98. Copper is a toxic pollutant, 40 C.F.R. § 401.15, and according to EPA, people who consume drinking water with high levels of copper can experience gastrointestinal distress, and with long-term exposure may experience liver or kidney damage.

99. Iron can render water unusable by imparting a rusty color and a metallic taste and causing sedimentation and staining; to prevent these effects the EPA has set a secondary drinking water standard of 300 micrograms per liter.

100. Lead is a very potent neurotoxicant that is highly damaging to the nervous system. Health effects associated with exposure to lead include, but are not limited to, neurotoxicity, developmental delays, hypertension, impaired hearing acuity, impaired hemoglobin synthesis, and male reproductive impairment. Importantly, many of lead's health effects may occur without overt signs of toxicity. Lead is also classified by the EPA as a "probable human carcinogen."

101. Manganese is known to be toxic to the nervous system. Manganese concentrations greater than 50 micrograms per liter render water unusable by discoloring the water, giving it a metallic taste, and causing black staining. Exposure to high levels can affect the nervous system; very high levels may impair brain development in children.

102. According to EPA and ATSDR, nausea, vomiting, diarrhea and neurological effects have been reported in those who ingested water contaminated with nickel. Nickel is a toxic pollutant, 40 C.F.R. § 401.15. Exposure to nickel on the skin causes dermatitis. And animal studies have reported reproductive and developmental effects from ingestion of soluble nickel.

103. Selenium is an essential element, but it is also a toxic pollutant, 40 C.F.R. § 401.15, and excess exposure can cause a chemical-specific condition known as selenosis, with symptoms that include hair and nail loss.

104. Exposure to high levels of strontium during infancy and childhood can affect bone growth and cause dental changes. Infants and young children who ingest too much strontium can develop a condition called strontium rickets. Strontium rickets is a disease in which bones are thicker and shorter than normal and may be deformed.

105. High concentrations of sulfates in drinking water can cause diarrhea. The EPA has established a secondary maximum contaminant level of 250 milligrams per liter, and a health-based advisory of 500 milligrams per liter. Groundwater with sulfate concentrations above the North Carolina groundwater standard of 250 milligrams per liter is therefore unusable and potentially unsafe.

106. Radionuclides cause cancer and toxic effects to the kidney. Radioactive particles emitted by radionuclides can damage cells, leading to the death of the cell or to unnatural reproduction of the cell that causes cancer. Certain types of radionuclides accumulate in people's bones. Radionuclides include gross alpha, uranium, radium-226, radium-228, uranium-233, uranium-234, and uranium-236.

107. Thallium is a toxic pollutant, 40 C.F.R. § 401.15, and exposure to high levels of thallium can result in harmful health effects. Studies in rats have shown adverse developmental effects from exposure to high levels of thallium, and some adverse effects on the reproductive system after ingesting thallium for several weeks.

108. According to the ATSDR, vanadium can cause nausea, diarrhea, and stomach cramps. The IARC has determined that vanadium is possibly carcinogenic to humans.

109. Zinc is a toxic pollutant, 40 C.F.R. § 401.15, and according to the ATSDR, ingesting high levels of zinc may cause stomach cramps, nausea, and vomiting. Ingesting high levels of zinc for several months may cause anemia, damage the pancreas, and decrease levels of high-density lipoprotein cholesterol.

110. High concentrations of total dissolved solids can make drinking water unpalatable and can cause scale buildup in pipes, valves, and filters, reducing performance and adding to system maintenance costs.

111. Concurrent exposure to multiple contaminants may intensify existing effects of individual contaminants, or may give rise to interactions and synergies that create new effects. Where several coal ash contaminants share a common mechanism of toxicity or affect the same body organ or system, exposure to several contaminants concurrently produces a greater chance of increased risk to health.

CLAIMS FOR RELIEF

112. The allegations of the preceding paragraphs are incorporated by reference in each of the following claims for relief as if repeated and set forth in full.

I. Duke Energy Is Violating Its Removed Substances Permit Provision, In Violation of the Clean Water Act.

113. Duke Energy has violated the Clean Water Act by violating an express condition in its wastewater permit for Belews Creek requiring that Duke Energy prevent the pollutants from the coal ash lagoons from entering North Carolina waters and navigable waters.

114. Duke Energy's Belews Creek wastewater permit recognizes that "[t]he Permittee must comply with all conditions of this permit. *Any permit noncompliance constitutes a violation of the CWA* and is grounds for enforcement action[.]" Exhibit 4, Belews Creek Wastewater Permit, Part II.B.1 (emphasis added).

115. Duke Energy continues to violate the provision of its wastewater permit requiring it to prevent the entrance of pollutants from the coal ash lagoons into North Carolina waters or navigable waters, known as the Removed Substances provision. Part II.C.6 of the permit requires that:

> Solids, sludges, . . . or other pollutants removed in the course of treatment or control of wastewaters shall be utilized/disposed of . . . in a manner such as to *prevent any pollutant from such materials from entering waters of the State or navigable waters of the United States* except as permitted by the Commission."

Exhibit 4, Belews Creek Wastewater Permit (emphasis added).

116. The Clean Water Act provides that citizen suits may be brought for violations of "an effluent standard or limitation," which is defined to include "a permit or condition thereof." 33 U.S.C. § 1365(f). By violating an express condition of the wastewater permit for the Belews Creek coal ash site, Duke Energy has violated the Clean Water Act.

117. The U.S. District Court for the Middle District of Tennessee recently held that the Tennessee Valley Authority's unauthorized discharges of coal ash wastes violated the Removed Substances provision of the permit for the Gallatin coal ash site. *Tenn. Clean Water Network*, 2017 WL 3476069, at *58. The court ordered the utility to

excavate all of its coal ash at the Gallatin site to remedy this violation of the Clean Water Act. *Id.* at *60-63.

118. The ash basin at Belews Creek receives and treats various waste streams, including coal ash, coal ash sluice water, and other substances from the burning of coal, as well as waste streams from the chemical holding pond, power house and yard holding sumps, coal yard sumps, stormwater and remediated groundwater, and treated scrubber wastewater. These waste streams are treated by sedimentation in the ash basin. Pollutants that have been removed in the course of treatment are disposed of in the Belews Creek coal ash basin.

119. The Removed Substances provision requires the permittee to prevent coal ash contaminants, solids, sediments, and sludge from entering the waters of North Carolina and waters of the United States. Groundwater is included in North Carolina's definition of waters of the state. N.C. Gen. Stat. § 143-212(6). So are the Dan River, Belews Lake, Little Belews Creek, and other tributary streams at the Belews Creek site, and they are also navigable waters of the United States.

120. Far from preventing the entrance of these pollutants into state and United States waters, for years Duke Energy has knowingly discharged pollutants, solids, and sludges from its Belews Creek coal ash basin into these waters.

121. This permit requirement to prevent the entrance of pollutants into waters of North Carolina and the United States is enforceable through a citizen suit under the Clean Water Act. *See* 33 U.S.C. § 1370 (allowing states to adopt and enforce more stringent limitations in CWA permits than the federal government); 33 U.S.C. § 1311(b)(1)(B)

(stating that more stringent state limitations in furtherance of the objective of the CWA include "those necessary to meet water quality standards"); *Sierra Club v. Va. Elec. & Power Co.*, 145 F. Supp. 3d 601, 607-09 (E.D. Va. 2015) (allowing citizen suit claims for violation of Removed Substances permit provision for surface and groundwater discharges); *Yadkin Riverkeeper*, 141 F. Supp. 3d at 446-47 (allowing citizen suit claims for violation of Removed Substances permit provision for surface and groundwater discharges); *Cape Fear River Watch, Inc.*, 25 F. Supp. 3d at 810-11, *amended*, 2014 WL 10991530 (allowing citizen suit claims for violation of Removed Substances permit provision for surface and groundwater discharges). *See also Friends of the Earth, Inc. v. Gaston Copper Recycling Corp.*, 204 F.3d 149, 152 (4th Cir. 2000) (confirming citizens are "authorized to bring suit against any NPDES permit holder who has allegedly violated its permit"); *Nw. Envtl. Advocates v. City of Portland*, 56 F.3d 979, 986 (9th Cir. 1995) ("The plain language of CWA § 505 authorizes citizens to enforce all permit conditions"); *Culbertson v. Coats Am., Inc.*, 913 F. Supp. 1572, 1581 (N.D. Ga. 1995) (holding that "[t]he CWA authorizes citizen suits for the enforcement of all conditions of NPDES permits").

A. Duke Energy Is Violating the Removed Substances Provision by Disposing of Its Coal Ash in Groundwater and by Allowing Its Coal Ash to Enter Groundwater.

122. Measurements of the groundwater table elevation and surveys of the depth of the coal ash in the Belews Creek basin reveal that the coal ash sits approximately 60

feet deep in the groundwater table in some places. Thus, the settled coal ash in Duke Energy's basin has been placed in state waters, in violation of this permit provision.

B. Duke Energy Is Violating the Removed Substances Provision by Allowing Coal Ash Pollutants to Escape from Its Unlined Lagoons Into the Groundwater.

123. For years, pollutants from coal ash have been found in groundwater under, at, and around the Belews Creek site. Monitoring well data from the site shows Duke Energy's disposal of coal ash in the unlined lagoon has caused pollutants such as aluminum, arsenic, barium, boron, bromide, chloride, copper, iron, manganese, mercury, molybdenum, nickel, radionuclides, selenium, sulfate, strontium, total dissolved solids, vanadium, and zinc to enter the groundwater, in violation of this permit provision. *See* ¶ 62 above. When the ash comes into contact with water, these metals and pollutants leach or dissolve into the water and are released from the ash basin.

C. Duke Energy Is Violating the Removed Substances Provision by Allowing Pollutants to Enter Surface Water Through the Groundwater.

124. Groundwater contaminated with removed substances flows to Little Belews Creek, the Dan River, Belews Lake, and other tributary streams.

125. According to documents prepared by Duke Energy's own consultant, and the testimony of Duke Energy itself, the contaminated groundwater at Belews Creek flows directly into Little Belews Creek and ultimately the Dan River. Exhibit 18, Excerpt of Duke 30(b)(6) Testimony of Sean DeNeale at 124:4-22 (Feb. 7, 2017). The contaminated groundwater also flows into Belews Lake.

126. Sampling results for these waters show elevated levels of coal ash pollutants including bromide, boron, selenium, thallium, mercury, cobalt, aluminum, chloride, and total dissolved solids, and in many cases surface water quality standard violations for these pollutants, as described above.

127. These releases to jurisdictional waters through groundwater constitute an additional violation of the Removed Substances provision of the Belews Creek wastewater permit.

D. Duke Energy Is Violating the Removed Substances Provision by Allowing Pollutants to Enter Surface Waters Through Leaking Streams of Polluted Wastewater.

128. Duke Energy is allowing removed substances from its Belews Creek coal ash basin to travel through numerous leaking streams of polluted wastewater into the Dan River, Belews Lake, Little Belews Creek, and downstream drinking water supplies. Duke Energy is also releasing removed substances through the ash basin's discharge structure, which empties without a permitted outfall into Little Belews Creek. These surface flows convey removed substances into waters of the United States and of North Carolina, in violation of Duke Energy's permit and the Clean Water Act.

129. These illegal flows of removed substances consist of coal ash and coal ash sluice water, as well as waste streams from the chemical holding pond, power house and yard holding sumps, coal yard sumps, stormwater and remediated groundwater, and treated scrubber wastewater. They contain pollutants including aluminum, arsenic,

barium, boron, bromide, chloride, copper, iron, manganese, mercury, molybdenum, nickel, selenium, sulfate, strontium, TDS, vanadium, and zinc. *See* ¶ 70 above.

130. As described above, the coal ash wastewater treatment facility is designed to work by discharging only the uppermost, least polluted water over the top of a riser structure after treatment by sedimentation has occurred. Instead, these seeps release completely untreated wastewater and removed substances through the bottom and sides of the ash basin.

131. Duke Energy is allowing removed substances to flow through these seeps—many of which are themselves jurisdictional tributaries—into the Dan River, Belews Lake, and Little Belews Creek, in violation of the Clean Water Act.

II. Duke Energy Has Failed to Properly Operate and Maintain the Belews Creek Coal Ash Basin, in Violation of Its Permit and the Clean Water Act.

132. Duke Energy's Belews Creek wastewater permit provides that:

> The Permittee shall at all times provide the operation and maintenance resources necessary to operate the existing facilities at optimum efficiency. The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this individual permit.

Exhibit 4, Belews Creek Wastewater Permit, Part II, Section C.2.

133. Duke Energy has repeatedly and in a variety of ways violated this provision of its permit. Its wastewater treatment facility and systems improperly leak, malfunction, pollute, and otherwise violate the conditions of the permit. All the permit violations set out above are also violations of these basic permit requirements to properly operate and maintain a wastewater facility and wastewater systems.

III. Duke Energy Is Illegally Polluting Jurisdictional Waters by Treating a Segment of Little Belews Creek as Part of Its Private Coal Ash Pollution System.

134. Duke Energy is violating the Clean Water Act by using a water of the United States as its private coal ash wastewater system. This jurisdictional water is a segment of Little Belews Creek, which Duke Energy and the Department are failing to protect as a water of the United States because Duke Energy is treating it as a component of its coal ash wastewater system.

135. The Clean Water Act regulates "***any addition*** of any pollutant ***to*** navigable waters ***from*** any point source." 33 U.S.C. § 1362(12) (emphasis added). A wastewater permit issued under the Clean Water Act must regulate the discharge of pollutants at the point where they *enter* navigable waters, such as Little Belews Creek.

136. Despite the fact that the coal ash basin discharge structure indisputably empties into Little Belews Creek, Duke Energy's wastewater permit wrongly identifies the permitted outfall as being one-half mile downstream in the middle of the Dan River. Exhibit 6, Duke Energy, Belews Creek Wastewater Permit Map (last revised Nov. 2016). Because of this error, ***the entire segment of Little Belews Creek flowing from the permitted discharge structure to the Dan River currently—and unlawfully—receives no Clean Water Act or surface water quality protections***.

137. Duke Energy's wastewater permit does not and cannot validly authorize Duke Energy's highly contaminated toxic discharges to this water of the United States. *Cape Fear River Watch*, 25 F. Supp. 3d at 810-11 (wastewater permit does not shield

polluter for use of jurisdictional waters as component of private coal ash wastewater system).

138. The Belews Creek wastewater permit authorizes only one point source discharge for its coal ash pollution into waters of the United States: Outfall 003. Exhibit 4, Belews Creek Wastewater Permit, at 2. The Belews Creek wastewater permit identifies no authorized discharge point for the point source discharges from the coal ash basin into Little Belews Creek, Belews Lake, or any other tributaries. Because Duke Energy's coal ash pollutants have already entered jurisdictional waters of the United States prior to reaching the Dan River, the wastewater permit also does not validly authorize any discharges into the Dan River.

139. Duke Energy's coal ash lagoon is illegally polluting Little Belews Creek through unpermitted seeps, through hydrologically connected groundwater, and through the permitted discharge structure for the coal ash basin, which has no authorized outfall into Little Belews Creek.

140. All violations of the Clean Water Act alleged above are continuing violations.

PRAYER FOR RELIEF

WHEREFORE, the Citizen Groups respectfully request that this Court:

A. Issue a declaratory judgment recognizing that Little Belews Creek is a water of the United States protected by the Clean Water Act, and stating that Duke Energy is violating the Clean Water Act by polluting Little Belews Creek as a wastewater discharge channel; by allowing and causing removed substances to enter into the

groundwater and into the Dan River, Belews Lake, Little Belews Creek, and other tributaries in violation of the wastewater permit and the Clean Water Act; and by failing to properly operate and maintain its Belews Creek facility and otherwise violating prohibitions and requirements of its wastewater permit;

B. Enter appropriate preliminary and permanent injunctive relief to ensure that Duke Energy:

i. Prevents the coal ash impoundments from allowing or causing the entering of removed substances, including coal ash and other solids, sludges, materials, substances, and pollutants, into groundwater, the Dan River, Belews Lake, Little Belews Creek, and other tributaries;

ii. Removes all existing coal ash in the Belews Creek basin from the groundwater; separates it from groundwater so that Duke Energy does not allow coal ash pollutants to enter the groundwater or surface waters; and eliminates all seeps and flows of coal ash, coal ash pollutants, and coal ash polluted water into surface waters;

iii. Removes all existing coal ash from the Belews Creek basin within a reasonable amount of time and (i) stores it in an appropriately lined industrial solid waste landfill facility away from surface waters and separated from the groundwater, with appropriate monitoring, or (ii) recycles the coal ash into concrete or cement;

iv. Remediates the groundwater beneath the Belews Creek site resulting from its unpermitted discharges;

v. Removes from the Dan River, Belews Lake, and Little Belews Creek the pollutants it has illegally allowed to enter and discharged into these water bodies;

C. Assess civil penalties against Duke Energy of up to $37,500 per violation per day for each violation of the Clean Water Act occurring on or before November 2, 2015, and $52,414 per violation per day for each violation of the Clean Water Act occurring after November 2, 2015, pursuant to 33 U.S.C. §§ 1319(d), 1365(a); 74 Fed. Reg. 626, 627 (Jan. 7, 2009); and 82 Fed. Reg. 3633 (Jan. 12, 2017);

D. Award the Citizen Groups the costs of this action, including reasonable attorney and expert fees, as authorized by 33 U.S.C. § 1365(d); and

E. Grant the Citizen Groups such further and additional relief as the Court deems just and proper.

This 5th day of December, 2017.

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